Antiphlogistics and revulsives were tried without benefit. The unfortunate patient, deprived at once of sight and fortune, and not receiving relief from the best surgical advice in Paris, had recourse to charlatans, and among others to the homœopaths who promised him a speedy cure, but failed after many months' treatment to perform their promises.

The patient finally had became resigned to his hard fate, when one day his child, four years of age, had a violent fall. The unfortunate father who was near him, and heard him fall, called to him, but received no answer. Groping about for the child, he found him on the pavement without respiration, pulseless, and apparently lifeless. The father called loudly for help, and when assistance came he was so overcome that he fainted. He remained in this situation for about twenty minutes, and great was his surprise on reviving to find that he was no longer blind. Objects indeed appeared as if enveloped in a thick mist, but he saw them, it was no illusion, for his sight gradually became clearer, and in a short time he was able to pursue his ordinary occupations.

His right eye, however, remained feeble, at times he saw flashes and sparks of different colours, rendering the sight of that eye imperfect, when a new misfortune led to the complete recovery of his sight. He was attacked with double pneumonia, accompanied with typhoid symptoms. The disease was protracted and painful; nevertheless it was cured by antiphlogistics, tartar emetic, revulsives, &c.; and finally, when convalescence was established, he had the satisfaction of finding that his sight was as perfect as at any period of his life.

MIDWIFERY.

48. *Remarks on Forceps Cases.* By Robert Lee, M. D.,—"In more than twenty cases of protracted labour, where it had been proposed to deliver with the forceps, the histories of which it would be tedious to relate, I recommended delay, and they all terminated favourably without artificial assistance.

"Five of the mothers whose cases have now been related, died from puerperal convulsions, and four from the rash and inconsiderate use of the forceps. Seven had the perinæum more or less injured, one the recto-vaginal septum torn, five were left with cicatrices of the vagina after sloughing, and one with an incurable vesico-vaginal fistula. In none did any benefit result from the instrument before the greater part of the head of the child had passed through the brim of the pelvis, and the orifice of the uterus was fully dilated. In one case only was the employment of the forceps advantageous, where the blades were applied and locked with great difficulty, and great force required to extract the head of the child. Seventeen of the children were born alive and lived.

"In protracted labours, when the head has made no sensible advance for hours, and becomes compressed, the scalp puffy and swollen, the vagina dry, hot, and tender, the discharges offensive, and when the bladder cannot be emptied without the catheter, it is dangerous to trust longer to the natural efforts. If along with these symptoms, there is tenderness of the abdomen, fever, incoherence, restlessness, and exhaustion, delaying long to deliver is invariably followed by the most injurious consequences, as the cases related in the next report sufficiently prove."—*Clinical Midwifery.*

49. *Presentation of the Arm in nine consecutive labours in the same woman.*—M Gery relates an example of this in the *Révue Medicale* for Nov. 1842.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

50. *Is the Urinary secretion suppressed in acute and subacute poisoning by Arsenic?*—According to the experiments of Orfila, it is not, whilst Flandin and

Danger came to an opposite result. In order to determine this important question, **Delafond**, Professor of Pathology and Legal Medicine at the Veterinary School of Alfort, performed several experiments, which he detailed in a memoir before the Royal Academy of Medicine, and the result of which are thus given by Ollivier, (D'Angers), Chevallier and Le Canu, Commissioners to examine the memoir.

M. Delafond commenced, by ascertaining the urine secreted in a given time by horses and dogs, in a healthy state, after being deprived of food and drink during forty-eight hours. The bladders in each were first artificially evacuated, and then again at the expiration of forty-eight hours. The quantity of urine obtained from horses at the latter period, was 5 litres 664 millitres, or 118 millitres in one hour; and of dogs, 1 litre 152 millitres in forty-eight hours, or 024 millitres in an hour.

Preparatory to the second series of experiments, M. Delafond took it for granted that the following facts had been already established by the observations of Bouley and Orfila. 1. That sixty grammes (two ounces) of arsenic, in powder, introduced into the stomach of a horse would cause its death in a space of time not less than forty-six hours, nor greater than one hundred and forty-four hours. 2. That arsenic in powder introduced into the stomach of a dog, whose œsophagus is tied immediately after, to the amount of 20 or 30 centigrammes, will destroy the animal in from fourteen to twenty-seven hours; and that death will happen much more quickly if the poison be introduced in a state of solution.

Recollecting also, that arsenic is most commonly taken in a partly dissolved state, and partly suspended in various aliments or drinks, he administered it as follows. To horses, a dose of 30 grammes, mixed in three litres of water, in order to induce acute poisoning; and a dose of 60 grammes in six litres of water, to induce the subacute condition, while to dogs, he gave 5 grammes with water. The bladder of each of these animals were evacuated immediately previous to the exhibition of the poison. They also had not been allowed any drink for twenty hours before this time.

Six horses experimented upon, died in one hour, one and a half hours, eight hours, twenty-one, twenty-nine, and fifty-one hours; and the urine obtained, varied from three litres to two centilitres. The dogs died at a mean period of twelve hours, and the quantity of urine secreted during that time, varied from three centilitres to one decilitre. In both, the urine contained a notable portion of arsenic, and which began to be deposited as soon as the constitutional symptoms of the absorption of the arsenic became manifest.

The author infers from these results, that the urinary secretion is not suppressed during acute poisoning from arsenic. There is equally no doubt, but that it is notably diminished. If the figures 100 be taken to represent the quantity secreted in the healthy state, the present amount will be 29 in the poisoned horse, and 17 in the poisoned dog. M. Delafond repeated some of these experiments before the commissioners. To a horse who had fasted fifty hours, and whose bladder had been thoroughly emptied, 40 grammes of arsenic in five litres of water were injected into the stomach by means of a tube introduced into the œsophagus. The tube was then withdrawn and the œsophagus tied. In four hours, the animal was dead, without having urinated. The bladder contained four decilitres of urine, decidedly arsenical.

The same experiment was repeated on a horse that had fasted sixty hours. It died in two hours and twenty minutes, and the bladder contained only two decilitres of urine equally arsenical. The diminution here appears to correspond to the shorter life of the animal.

To a bitch, who had been denied food and drink for fifteen hours, and whose bladder was perfectly emptied, five grammes of arsenic in a litre of water, were injected into the stomach, and the œsophagus was tied. Death ensued in three hours and a few minutes. The mucous membrane of the bladder was of an intense red, and it contained a decilitre and a half of yellowish red urine, in which arsenic was readily detected. In another dog, death ensued an hour and a half after taking 2½ grammes of arsenic suspended in half a litre of water. The bladder contained two decilitres of arsenical urine.

The experiments also enabled the commissioners to verify a curious observation of M. Delafond, viz., the almost instantaneous production of false membranes, sometimes so compact, that they may be removed in one piece, formed like a hollow cylinder, from the internal surface of the small intestines in horses poisoned by arsenic. This membranous concretion always occurs in less than two hours, and what is remarkable, according to M. Delafond, neither corrosive sublimate, tartar emetic, nitrate of silver, muriate of antimony, or sulphate of copper produce any thing resembling it.

It is evident from the facts ascertained by M. Delafond, that the secretion of urine continues, although in a less degree than in health; and it must also be recollected, that the previous state of fasting is unfavourable to it.—*Bulletin de l'Académie Royale de Médecine*, vol. 8, p. 810. T. R. B.

51. *Death from eating Phosphorus.*—The following account is taken from a newspaper published at the city of Rochester, in this state, June 1843. The infant daughter of Mr. Newman ate some phosphorus on Friday, at 12 o'clock. The mother immediately gave it an emetic, after which it remained easy. It is, however, stated, that the smoke of the phosphorus escaped freely from the bowels during Saturday. It continued apparently well until Sunday morning, when it was seized with terrific pains, which continued until she died, at 6 P. M.

On dissection, extensive burns were discovered throughout the whole course of the intestines. It is added, that the proper antidotes were freely given. A more detailed account of this case would be acceptable. T. R. B.

52. *Death from Lucifer Matches.*—Emma M'Adam, a child three and a half years old, poisoned herself by sucking the ends of some French Congreve matches. It was stated at the inquest, that they were composed of oxymuriate of potash and phosphorus.—*London Atlas Newspaper*, June 20, 1840.

A girl aged six months, at Lancaster, sucked the end of some lucifer matches. About eight hours after, violent sickness came on, which continued a night and a day; the matter vomited was luminous, and as well as the breath, emitted a strong phosphorescent odour. After the cessation of the sickness, the child lay in a drowsy, comatose state, until within a few hours of its death, when it was seized with violent convulsions and died in one of the paroxysms. This occurred on the fifth day. Its bowels during the whole time had been sluggish, requiring enemas constantly in order to cause evacuations.

On dissection, twelve hours after death, a large injected patch was found near the pyloric orifice, and the mucous membrane was thickened and softened. The duodenum and jejunum were healthy, but along the whole course of the ileum, there were several oblong patches of thickened, softened, and in many places ulcerated mucous membrane. The colon and rectum were healthy; the liver pale and somewhat indurated; the lungs and pleura healthy. Mr. Lafarque in *Provincial Medical Journal*, quoted in *Lond. & Edin. Monthly Journ. Med. Sci.*, April 1843. T. R. B.

53. *Poisoning by Binoxalate of Potash.*—In the number of this journal for July 1841. a case is given in which the patient recovered from its effects. In the present instance, the result was fatal. A lady recently confined, was ordered one ounce of the bitartrate of potash, but the apothecary sent by mistake the same quantity of the binoxalate, divided into two doses. One dose was immediately swallowed, but had scarcely reached the stomach, when she was seized with excruciating pains, followed by violent convulsions, and death ensued within ten minutes after the swallowing of the draught.

On opening the body, twenty-four hours after death, putrefaction was found to have commenced on all the lower parts of the abdomen. The mouth, pharynx, and œsophagus were in their natural state. The orifices of the stomach were hermetically closed, in consequence of the contraction of the circular fibres which surround them. The mucous membrane of the stomach, duodenum and small intestines, all presented the appearance of violent inflammation. The blood was fluid in the heart and great blood-vessels.

In another case, a female wishing to wean her child, took for three successive mornings the remedy prescribed. It consisted, as was afterwards ascertained, of oxalate of potash, and each day's prescription held one drachm and sixteen grains of the salt. It induced violent vomiting after every dose, bloody and blackish, with extreme pain. Death ensued within an hour after taking it on the third day. The matters vomited were examined, and found to contain a large proportion of salt of sorrel, as forty grains of oxalic acid were extracted from them.

On the other hand, a female swallowed an ounce of the binoxalate, at a single dose, dissolved in water. She experienced serious symptoms only at the end of an hour and a half, and the case was successfully treated by giving first a mixture of chalk and afterwards antispasmodics.—*Edin. Med. & Surg. Journ.*, Oct. 1842. *Annales D'Hygiene. Lond. & Edin. Monthly. Journ. Med. Sci.*, Oct. 1842.

It is asked by one of these journalists, why this remarkable difference in the last case? We need more details to form a decided opinion, but it may be conjectured that the puerperal state aided materially in hastening the absorption of the poison. This opinion is strengthened by the fact of forty grains of sulphate of potash given as a purgative to a female recently confined, causing death in two and a half hours, after extreme suffering. Dr. Bayard was required to make a chemical analysis of the substances contained in the stomach, but could detect nothing beyond the salt in question.—*Annales D'Hygiene*, April 1842. T. R. B.

54. *Poisoning by a Cerate prepared from Wax Candles that contained Arsenic.* By Dr. Errard.—An individual convalescent from pneumonia, had two blisters applied, one to each arm. The wounds were dressed with ointment. Dr. Errard was sent for on the next day; he found the arms painful, the tongue red, dry, and cracked, and the pulse small, irregular and frequent. There was urgent thirst, pains in the abdomen, without purging, and involuntary contractions of the muscles of the lower extremities and of the back, with headache. Death ensued in the evening. Dr. E. suspected poisoning, but as the relatives assured him that nothing hurtful had been taken, no further examination was made.

Eight days after, a blister was applied to the thigh of a young woman, for headache arising from suppressed menstruation. It was afterwards dressed with cerate, which caused such pain, that the dressing was removed. Dr. Errard on visiting her, found that she had intolerable thirst, with nausea and pain in the stomach. The tongue was red, the wound was inflamed and a little bloody, and there were twitches in the limbs. She recovered with proper remedies after a few days.

Dr. Errard now recollected that a cerate applied to the nose of a child, some short time previous, had aggravated the inflammation, and on inquiry, he ascertained, that in all the three cases, the cerate had been obtained from the same shop, and that it was made from the ends of wax candles. No chemical examination was had, but it is well known, that in every village, the ends of candles used for lighting churches are frequently thus employed, and further, that they are made from lard whitened and hardened by arsenious acid.—*Gaz. Med. de Paris.* T. R. B.

55. *On the Composition of Pure and Vitiated Atmospheres.* By R. D. Thomson, M. D., Glasgow. (Proceedings of the Glasgow Philosophical Society.)

Dumas has lately published some experiments made at Copenhagen, on air taken from the surface of the ocean. Its constituents were found to be the same as those already obtained from every kind and description of place, under ordinary circumstances.

The trials of Leblanc (see American Journal of Medical Sciences, New Series, Vol. 5, p. 495) on vitiated atmosphere, are of great interest. The quantity of carbonic acid in the atmosphere in its pure state has been shown by the Saussures to vary from three to six parts in 10,000. But Leblanc found that the air

in one of the wards of the hospital, "La Pitie," which contained fifty-four patients, afforded five times more of carbonic acid than in healthy air. So also in one of the dormitories of the Salpetriere, it reached to nearly fourteen times more. In Dumas' class room, after a lecture of an hour and a half, where nine hundred persons were present, the carbonic acid amounted to one per cent., and the same quantity of oxygen had disappeared. From other experiments, he considers this the maximum quantity for safety, and strongly recommends a better ventilation, when so much carbonic acid is present. This result agrees with experiments made in Great Britain. When the atmosphere is deteriorated by burning charcoal, he has seen death produced, when three per cent. of carbonic acid was present in the atmosphere. In all such cases of death from stoves, he has found carbonic oxide in the air, and he attributes a deleterious effect to the agency of this gas. He has observed one per cent. of this gas to destroy an animal in two minutes, which is contrary to the statement of M. Nysten. This observation explains many of the inconsistencies which appeared some years ago in the evidence of some London chemists, respecting the influence of Joyce's stoves. It is quite obvious that their structure was dangerous. Leblanc found that a candle was extinguished in air containing four and a half, or six per cent. of carbonic acid. In such an atmosphere, life may be kept up for some time, but respiration is oppressive, and the animal is affected with very great uneasiness. Air expired from the lungs contains about four per cent. of carbonic acid, thence this atmosphere is noxious, Even three per cent. in the atmosphere killed birds, and yet we have seen statements which affirmed that upwards of three per cent. had been detected in the London theatres. All these facts are pregnant with importance in reference to health. Our miners may not be suffocated by fire damp explosions, but we should remember that their constitutions may be poisoned by the respiration of tainted atmospheres.—*Lancet*, February 4, 1843.
T. R. B.

56. *Death from violence to the testicles.*—It appears that among a certain class of people of Germany, in resorting to blows, it is customary to endeavour to grasp and squeeze these organs, and prize-fighters are accordingly accustomed to cover and protect these organs. A few years ago, at or near Peitz, a young man who had interposed between two combatants, was observed to fall to the ground, uttering a loud cry, and after having been seized with violent convulsions, in a few minutes, died. Every attempt to restore animation failed, and the cause of death remained in obscurity, until the next day, when on dissection, the scrotum and penis were seen strongly injected and much swollen, and on opening the abdomen, about four ounces of blood were found behind the peritoneum, upon the psoas muscle of either side, at the place where the spermatic cord passes through the abdominal ring, and the vas deferens leaves the spermatic vessels. At this point, the spermatic artery and vein were, if not torn, at least so distended and attenuated, that their coats appeared quite porous and cribriform, and had evidently given egress to the blood, which was discovered extravasated.—*Lancet*, March 11, 1843. T. R. B.

57. *Test for Nitric Acid.*—(Berzelius' Annual Report.) M. Berthemot has discovered an easy method of determining the presence of nitric acid. About a drachm of concentrated sulphuric acid, free from nitric acid, is to be placed in a glass, and to this is added a few drops of the liquid suspected to contain nitric acid. These are mixed together with a glass rod, and then with the moist extremity of the rod, a small piece of brucine is introduced into the mixture, and the whole stirred together; if nitric acid be present, a red colour will be immediately developed, which will afterwards pass to yellow: if there be no nitric acid, the brucine will not dissolve. By this means, the presence of the one ten-thousandth part of nitric acid may be detected in a liquid.—*Pharmaceutical Transactions*, March 1843. T. R. B.

58. *Rupture of the Gall-bladder by blows.*—Dr. Fletcher recently submitted

to the Pathological Society of Birmingham, a ruptured gall-bladder, taken from a patient, who after fighting, had been suddenly taken ill and peritonitis supervening, had died the second day. Mr. Hodgson attributed the rupture to the unhealthy state of the bladder, and said that in a similar case, a judicial inquiry was stopped, on its being found by experiment, that the gall-bladder of sheep would not burst when struck with great force by a butcher's cleaver, as they lay on a block attached to the liver and intestines. In both cases of ruptured gall-bladders, the deceased (we should mention) showed no marks of external violence in any part of the region of the gall-bladder.—*Medical Times.*

T. R. B.

59. *Fresenius' Method of distinguishing between Arsenical and Antimonial Stains obtained by Marsh's Apparatus.*—(Wohler & Liebig's Anal der Chemie, for September 1842.)

Obtain marks as distinct as possible, in the usual way by the apparatus, and continue (changing occasionally the tubes) as long as spots are given. Then remove the vessel in which the gas is generated and substitute an apparatus for the generation of sulphuretted hydrogen. Pass a stream of this gas over the metallic spots, so slowly that the gas will just burn as it issues from the end of the tube, which is drawn out to a fine orifice.

When the gas is coming over, heat the tube by a spirit lamp, beginning at the outer end of the apparatus and passing the lamp slowly along in a direction contrary to the direction of the current of gas. The metal or metals present are thus converted into sulphurets. When this conversion is perfect, remove the sulph. hydrogen apparatus and replace it by one for the generation of hydrochloric acid gas, interposing a larger tube, filled with cotton, between this apparatus and the tube in which the spots are contained. Let the stream of this gas pass slowly along the tube, and the *sulphuret of antimony*, if any be present, will be dissolved instantaneously, if the spots be thin; and in a few seconds, if they be thicker—for this substance is very volatile in an atmosphere of hydrochloric acid.

On the other hand, the *sulphuret of arsenic*, if any be present, will be unaffected, and after all the antimony is removed, may be obtained by sealing the end of the tube, and filling it with aqua ammoniæ, by which it will be dissolved and can then be subjected to subsequent tests.—*Journal of the Franklin Institute*, 3d series, vol. 5, p. 420. T. R. B.

60. *Poisoning by Laurel Water.*—A female infant about eight months old, and who had experienced but little illness, was suffering from dentition, united with some intestinal disorder. The physician in attendance prescribed evacuants. The next day, finding irritation in the abdomen, he ordered three leeches to be applied, and prescribed a potion of which black cherry water was the principal constituent. The druggist to whom it was taken was not at home, and the shop boy not being able to find the bottle of black cherry water, thought he might substitute cherry laurel water. The child had scarcely taken half a teaspoonful of the mixture, than it shrieked, and threw her head back, and was convulsed. Death ensued in ten minutes after taking the mixture.

The poison was detected by its odour, and on examining the body, the brain and spinal marrow were found in a healthy state, but the mucous membrane of the stomach was injected towards the greater curvature. The duodenum was also high coloured, but the rest of the alimentary canal was in a healthy state. The fluid found in the stomach contained no trace of prussic acid, but that remaining in the phial had so large a quantity, that a rabbit and a puppy were each destroyed by a portion of it in a few minutes.—*Encyclographie des Sciences Médicale*, September 1842.—*London Medical Gazette.* T. R. B.

61. *Antidotes to Bromine.*—From certain experiments on animals, Dr. Glover has been induced to recommend starch in solution, and the whites of eggs. Mr. Alfred Smee has still later proposed ammonia, as an invaluable and effectual

antidote. Bromine (he observes) is one of the most deadly poisons with which we are acquainted. It lowers the circulation with great rapidity, and makes the action of the heart irregular, and unfortunately from its volatile nature, cannot well be used without considerable escape. Its hurtful action is instantly counteracted by the vapour of ammonia, for when the two meet, dense white fumes are produced, when bromine probably ceases to exert its baneful influence, or at any rate to a much less extent. I have known persons nearly poisoned by incautiously using this substance, and who have been quite at a loss to know how to proceed to neutralize its action. Those who have to deal with bromine, would do well to have an open vessel of the liquor ammonia by their side, which is in general quite sufficient to prevent any unpleasant consequences.—*London Medical Gazette*, April 1843. T. R. B.

62. *On the antidote to Corrosive Sublimate proposed by M. Mialhes.* By M. Orfila (Journal de Chimie Médicale).—I was anxious to ascertain the value of this substance, and accordingly prepared 100 grammes of the protosulphuret of iron, by decomposing protosulphate of iron with sulphuret of ammonia. The resulting mixture was put into a ground stoppered bottle which I kept filled with water, as the contact of the air would convert the protosulphuret into the persulphuret of iron. When the precipitation was completed, I decanted the liquor by means of a syphon into another ground stoppered bottle, and by repeated washings, freed it from every trace of sulphate of iron and sulphuret of ammonia. In this condition it was kept free from any contact of the air.

Experiment 1. The tenth part of the above was given to a middling sized dog, and immediately after 60 centigrammes of corrosive sublimate dissolved in one hundred grammes of water. The œsophagus was tied and kept so for eleven hours. With the exception of a few stools, the animal showed none of the symptoms of poisoning, and he continued well.

Exp. 2. I introduced by means of a gum elastic sound the same quantity of corrosive sublimate into the stomach of a dog, and immediately after injected the same quantity of the protosulphuret as in the last experiment. The œsophagus was kept tied during eleven hours. The animal did not appear incommoded, and the next day was perfectly well.

Exp. 3. The same experiment was repeated with this variation, that the antidote was given *ten minutes* after injecting the poison. The animal died at the end of four hours, with all the symptoms of poisoning, and particularly had numerous stools blackened by the sulphuret. On dissection the stomach was found inflamed and ecchymosed.

I infer from these, 1st, That the protosulphuret of iron is a perfect antidote, if it be *immediately* given in sufficient quantity after the poison has been swallowed. 2d, That it is inefficacious, if the giving of it be delayed from ten to fifteen minutes, as the poison will then have had sufficient time to produce its deleterious effects. 3d, That although I readily concede that it is a far more energetic and complete antidote than albumen, and ought in consequence to be preferred, if *immediately* attained, still it is no less true, that in most cases, we will obtain more advantage from the immediate exhibition of whites of eggs beaten through water, which *are always at hand*, than from delaying, as may frequently be the case, for the preparation of the other antidote.—*Encyclographie des Sciences Médicales*, January 1843. T. R. B.

63. *A new Docimastic Test.*—"In the chapter on respiration we are told that the air remaining in the lungs consists for the most part of azote with some carbonic acid. A solution of deoxidized indigo on being injected assumed merely a greenish tint: a new *docimastic* test is thus furnished. The residual air is retained with great force in the lung: the whole being expelled only after boiling in water, whereupon a lung that has breathed sinks to the bottom of the vessel. A large amount of air is thus obtained. The specific gravity of the lung which has breathed is about that of ether, therefore it floats in alcohol and oil of turpentine. The lungs can be washed with chlorine water, nay even steeped in it for some

time, without losing their buoyancy."—*Review of Huenefeld on the co-operation of Chemistry and Medicine, in British and Foreign Medical Review,* July 1843.
T. R. B.

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64. *Antidotes against the principal Mineral Poisons.*—At a meeting of the Royal Academy of Medicine of Paris, held March 21, 1843, Sandras and Bouchardat read a communication, entitled *Experiments on the Antidotes of corrosive sublimate, lead, copper, and arsenic.* Their conclusions only are quoted.

"We think we have proved that the following substances are antidotes to 1. *Corrosive sublimate,* viz. a mixture of powdered zinc and iron; iron reduced by hydrogen and the persulphuret of the moist hydrated peroxide of iron. 2. *Copper;* a mixture of powdered zinc and iron; iron reduced by hydrogen; *lefer porphyrise;* zinc filings; and the persulphuret of the moist hydrated peroxide of iron. 3. *Lead;* the persulphuret of the moist hydrated peroxide of iron. *Arsenic;* the moist hydrated peroxide of iron; the dry hydrated peroxide of iron and the persulphuret of the moist hydrated peroxide of iron.

As this last named preparation acts equally on all the above poisons, it is above all proper to be administered in cases where the exact nature of the poison is not known."—*Bulletin De l'Academie Royale,* vol. 8, p. 807. T. R. B.

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65. *Detection of Arsenic by Copper.* By Hugo Reinsch. (Repertorium fur Pharmacie.)—This method consists in *acidulating the arsenical fluids with muriatic acid and boiling them with metallic copper, which then becomes covered with a steel-gray crust of metallic arsenic.* So complete is the separation of arsenic by this method, that no traces of it can be detected in the residual fluid by means of Marsh's apparatus.

Besides the precious metals, (which are readily distinguished from arsenic, by their brilliancy,) bismuth and antimony are the only ones which are precipitated under similar circumstances, but bismuth is always deposited in the crystalline form, and antimony constantly covers the copper with a violet-coloured metallic pellicle in weak solutions, and a grayish-white one, in those more concentrated.

When acids such as the phosphoric, sulphuric or acetic, containing arsenic, are boiled with metallic copper, the latter preserves its brilliancy unchanged, nor is it affected by an aqueous solution of arsenious acid, but as soon as a few drops of concentrated muriatic acid are allowed to fall on the copper, whilst the fluid is still warm, it is instantly covered with the characteristic steel-gray crust of metallic arsenic. This test is sensible in a fluid which contains one-millionth part of five centigrammes of arsenious acid.

M. Reinsch prepared a mixture of boiled potatoes, milk and soup and introduced gr. 0·025 of arsenic into the mixture. He digested the whole with pure muriatic acid, diluted with an equal weight of water, boiled the liquor, filtered it and treated it with slips of copper; these were immediately covered with the arsenical pellicle, exactly as if the arsenic had been dissolved simply in acidulated water, or the mineral acid. This method hence appears preferable to Marsh's apparatus, as it cannot like the last, give rise to mistake, from the formation of stains derived from organic matters, or from the employment of arseniuretted zinc, or from the troublesome frothing of the liquid. It is easier, and requires less time than Marsh's apparatus, and certainly equals it in sensibility.

All that is necessary for medico-legal purposes, is to digest the contents of the stomach and intestines, with pure diluted muriatic acid, and then the filtered liquor with slips of copper.

If further examination be necessary, let the slip of copper covered as above, be carefully washed with water, in the same vessel in which it has been boiled with the suspected liquid, and then dry it cautiously over the flame of a candle. It is then to be slipped down the centre of a glass tube about sixteen inches long, one end of which terminates in a capillary orifice, whilst to the other is closely adapted a small bent tube, having its lower end furnished with a perforated cork. The part of the tube where the copper lies is then to be heated for a short time with a spirit lamp, when arsenious acid sublimes along the tube in small but well-formed brilliant crystals. If we wish to test the arsenious acid thus formed, we may cut off the end of the tube, dissolve the acid, and apply the usual fluid tests. Or if we wish to obtain from it metallic arsenic on a porcelain plate, we can adapt by means of the cork, the bent tube to an apparatus for disengaging hydrogen and inflame the gas at the capillary orifice.—(*Translated and condensed from the Journal de Pharmacie.*) T. R. B.

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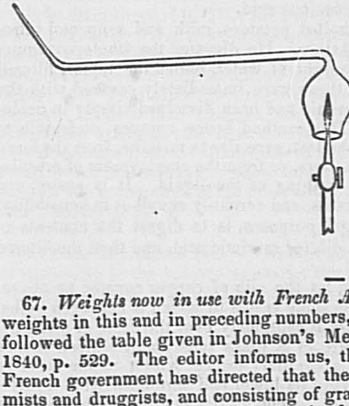
66. *Professor Christison's recent Observations on Legal Medicine.*—(Medico-Chirurgical Society of Edinburgh, January 4, 1843.)

Dr. Christison stated that he had recently succeeded in detecting arsenic in the liver of a person who had died from poisoning with that substance and whose body had been buried for three months. The process followed was that of Orfila and Marsh, with some immaterial modifications.

He further announced that he had detected alcohol in the stomach in two instances, where spirits had been taken not long before death and where a considerable period had elapsed between death and the date of examination. In one instance, the body had been buried about three weeks, in the other no less than three months; and the contents of the stomach had in each case been kept six weeks longer. The process of analysis consisted in cautious distillation from carbonate of potash—neutralization of the distilled fluid with sulphuric acid to remove ammonia; redistillation till a fifth of the fluid passed over, and agitation of the new distilled liquor with dry carbonate of potash. A clear colourless liquor rose to the surface, presenting all the characters of rectified spirit, and amounting in the case of the three months interment, to one fluid drachm of the density of .836. The author concluded with showing that the possibility of detecting alcohol in such circumstances was, so far as he was aware, a new fact in toxicology.

Dr. Christison lastly observed, that on the two occasions just alluded to, he had applied for the detection of arsenic the process lately proposed by Reinsch, and had obtained most satisfactory results. In medico-legal investigations, he considered it superior to every other process, of equal delicacy, greatly superior to every other in point of convenience, where complex fluids or mixtures of organic solids were to be examined, and a process which on the whole was likely to supersede all others hitherto proposed.

Dr. Christison likewise exhibited a simple apparatus which he had devised for collecting and examining the products of the combustion of the gas in Marsh's apparatus. This will best be understood by a reference to the accompanying wood cut. The gas in this tube burns in contact with an abundant supply of atmospheric air, the products being water and arsenious acid. These collect in the tube, at its further extremity, which ought to be kept cool by water dropping on it. The fluid thus obtained can be subjected to the ordinary liquid tests for arsenic. —*Lond. and Edin. Journ. of Med. Sci.* March, 1843. T. R. B.



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67. *Weights now in use with French Apothecaries.*—In my notices of French weights in this and in preceding numbers, except where otherwise stated, I have followed the table given in Johnson's Medico-Chirurgical Review, for October 1840, p. 529. The editor informs us, that since the beginning of 1840, the French government has directed that the old system of weights used by chemists and druggists, and consisting of grains, scruples, drachms and ounces, be abolished and be replaced with a decimal system as follows:

One grain equivalent to 5 centigrammes.
Ten grains, equivalent to 50 centigrammes.
Twenty grains equivalent to 1 gramme.
Thirty grains equivalent to 1 gramme and 50 centigrammes.
Fifty grains equivalent to 2 grammes and 50 centigrammes.
One scruple (24 grains) equivalent to 1 gramme and 30 centigrammes.
One drachm* equivalent to 4 grammes.
Two drachms equivalent to 8 grammes.
Half an ounce equivalent to 15 grammes.
One ounce equivalent to 30 grammes. T. R. B.

68. *Case of Poisoning by Lead in Maccouba Snuff.* By Professor Otto, of Copenhagen (Zeitschrift fur die Gesammte Medicin).—The following cases have excited universal attention at Copenhagen. M. Dreyer, highly esteemed as a scholar and a botanist, has enjoyed general good health until the autumn of 1841, when he was seized with the common symptoms of dyspepsia, and with costiveness and a muddy complexion. As he led a sedentary life, exercise was advised and bitter and laxative pills were prescribed. After this, he felt a little better, but just before Christmas, was seized wirh uncommonly severe colicky pains. His pulse was natural, tongue clean, and the abdomen not painful on pressure. The bowels had been open on the previous day. Enemas containing a grain of opium gave relief. Even then, the suspicion of lead being the cause, was excited, and Dr. Ahrensen supposed that the red wine prescribed, might contain it, but this was found not to be the case.

The improvement did not long continue, the bowels remained costive, the colicky pains returned with cardialgia. He had four of these attacks during the winter, which were removed, partly by purgatives and partly by opiates. In one of these only, was there quickness and tenseness of the pulse, with tenderness of the abdomen, and for this he was bled, and calomel was added to the opium. During the last attack, a very large quantity of round hard fæces were discharged, and after this the patient felt very well. In a week however, he was attacked with violent headache and this ended in a comatose state. In spite of all remedies used, he died at the end of two days, and about four months after the first attack of colic.

On dissection, every part was found healthy in the abdomen, except a trifling enlargement of the colon, probably caused by the frequent clysters; the brain too was healthy, except a slight injection of the membranes.

The deceased was much lamented, but his death had been almost forgotten, when his friend Dr. Bramsen read in a journal that red Maccouba snuff was sometimes adulterated with red lead. On this, he imagined that his deceased friend, who took a great deal of this snuff, might have been poisoned by it. He therefore bought some at the shop where the deceased used to buy his and found that it was mixed with a number of large and small grains, which looked like minium, and on chemical examination, he discovered that the snuff contained from sixteen to twenty per cent. of lead.

In the case of a young physician still alive, who is a great snuff-taker and long used the same snuff as the deceased patient, there has been an affection of the abdomen, characterized by colicky pains and obstinate costiveness. This has continued for a year, and he has become very thin. As he has now left off taking the snuff, it is to be hoped that he will be cured.—*Lond. Med. Gaz.* April 1843.

T. R. B.

69. *Infanticide by Suffocation.*—The earth or ashes which is found in the mouth or pharynx of those which have been hid in either, form a paste with the mucosity that adheres to the coats of these cavities, and in this way their further progress to the œsophagus and stomach is stopped. The presence of these

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* The drachm is now fixed as equivalent to 80 grains, instead of 72 grains, as formerly. T. R. B.

foreign bodies in the mouth, the pharynx and larynx, is therefore not a positive proof in favour of the child being alive when buried in this way. They may be found whether the infant was alive or dead. But the length and flattening of the œsophagus is such, that the foreign bodies will not enter it, by gravity alone, even if the infant were placed in a vertical posture. Hence the presence of the foreign bodies in question, in the stomach and intestines of a child thus found dead, can have been caused only by an act of deglutition, and consequently it must have reached these while living, and we can form some idea as to the time that it has survived, by the extent of the intestinal canal, through which the foreign bodies have passed.—*Mathyessens in Archives de la Medecine Belge*, April 1843. T. R. B.

70. *Remarkable Case of Suicide from the presence of a large Iron key in the œsophagus*, by Dr. Robert Jackson, of Leith.—Dr. Jackson was requested to visit Mrs. A., a widow aged 42, lately of irregular habits, who was stated to have swallowed some foreign body with the intention of committing suicide. It appeared that the day previous she had attempted to hang herself. The woman who gave this account was much inebriated, and Dr. Jackson, on seeing Mrs. A. found her calm and collected and positively denying the charge. Nothing in her appearance rendered it probable. She complained however of a slight sore throat, was a little hoarse and had some pain in swallowing, but her breathing was natural. The fauces were slightly inflamed and nothing unusual could be seen in viewing the throat. Dr. Jackson requested her to call the next morning at the dispensary, but he saw nothing of her until the 18th of March, a period of forty-two days, when he was again desired to visit her.

Mrs. A. now informed him that she had never been well since he had seen her; suffering much from difficulty in breathing, cough with expectoration and some pain in swallowing, and she thought she was getting worse. He questioned her most seriously concerning her attempt at suicide; she did not deny the attempt to hang herself, but reiterated again and again that she had never swallowed any substance with that intent, and seemed displeased at his inquiries. The neighbour also, who was now acting as her servant, had withdrawn her belief of such a thing. She was emaciated, pale, with an anxious expression of countenance, considerable dyspnœa, taking long inspirations, which were accompanied with a loud croupy noise, her voice was hoarse and she spoke in a loud whisper. She had considerable cough, with a mucous expectoration. There was considerable difficulty of swallowing, but not much pain except at one small spot, just behind the thyroid cartilage; she contrived however to take her tea as usual and could swallow hard biscuit, for which she had a partiality. She often also took beaf tea, wine, and could swallow pills. She was treated as labouring under some affection of the larynx or trachea, and was bled freely and had blisters applied to the part. She took medicines readily; but continued much in the same state, until the day of her death, on the morning of which, she took her breakfast, consisting of tea, an egg and some hard biscuit. During the day, her breathing became more and more laborious, coma followed, and she died in the afternoon of the 2d of April, *fifty-eight* days after Dr. Jackson had been first called.

On dissection, the parts diseased were immediately exposed. A transverse incision was made above the epiglottis down to the spine. As soon as this was done, Dr. Jackson observed the block of a key in the œsophagus, resting on the anterior wall of that tube, close upon the epiglottis, but a little beneath it. The extremity of the block of the key rested immediately below the hyoid bone on the left side, causing a small patch of ulceration on the mucous membrane of the œsophagus, where it was in contact with it. The pipe or tube of the key lay on the anterior wall of the æsophagus, forming for itself a sort of groove or furrow, which exactly fitted it. About two inches down, was a small deep spot of ulceration, which extended through all the coats of the œsophagus, and went as far as the mucous membrane of the trachea, exposing and laying bare part of the thyroid cartilage. The ring or handle of the key in its descent had caught hold of a fold of the lining membrane of the gullet, and by pushing this a little way before it, had formed a pouch or sac, which had stopped its further progress. The canal of the œsophagus was continuous posterior to this fold. From the irritation produced by this part of the key, inflammation had set up, and by the effusion of lymph, the walls at this part were greatly thickened and hardened, and the formation of the sac completed and strengthened.

The adjacent parts bore marks of irritation and inflammation; the lungs were very crepitant and contained a large quantity of frothy matter. The pericardium contained about an ounce of bloody serum. The remainder of the organs presented no unhealthy appearance.

The key was a common iron cellar key, of a black colour and very slightly corroded. It measured four inches in length, one inch broad at the wards, and one inch and a half at the handle. It was proved after Mrs. A.'s death, that on the day of its occurrence, a young woman heard her declare with an oath that she had swallowed the cellar key. This key also could not be found, to open the cellar door. And again it was ascertained that she had also attempted suicide, by forcing the poker down her throat.

Dr. Jackson is of opinion, that her death was not occasioned by what is properly called suffocation, neither from dysphagia, or want of nourishment, but rather from irritation to the bronchi and lungs and gradual mal-oxygenation of the blood, from the œdematous state of the larynx and laryngeal opening.—*Condensed from Edin. Med. and Surg. Journ.* July 1843. T. R B.

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71. *Answers returned by the Fifteen Judges to the Questions on the "Plea of Insanity," submitted to them by the House of Lords.*—The answers were read in the name of all the judges, excepting one, (Mr. Justice Maule,) by Lord Chief Justice Tindal, on the 19th June, 1843.

Question I. What is the law respecting alleged crimes committed by persons afflicted with insane delusion, in respect of one or more particular subjects or persons: as for instance, where at the time of the commission of the alleged crime the accused knew he was acting contrary to law, but did the act complained of with the view, under the influence of some insane delusion, of redressing or avenging some supposed grievance or injury, or of producing some supposed public benefit?

Answer. The opinion of the judges was that notwithstanding the party committed a wrong act, while labouring under the idea that he was redressing a supposed grievance or injury, or under the impression of obtaining some public or private benefit, he was liable to punishment.

Quest. II. What are the proper questions to be submitted to the jury, when a person alleged to be afflicted with insane delusion, respecting one or more particular subjects or persons, is charged with the commission of a crime, murder for example, and insanity is set up as a defence?

Ans. The jury ought in all cases to be told that every man should be considered of sane mind until the contrary were clearly proved in evidence. That before a plea of insanity should be allowed, undoubted evidence ought to be adduced that the accused was of diseased mind, and that at the time he committed the act he was not conscious of right or wrong. This opinion related to every case in which a party was charged with an illegal act, and a plea of insanity was set up. Every person was supposed to know what the law was, and therefore nothing could justify a wrong act except it was clearly proved that the party did not know right from wrong. If that was not satisfactorily proved the accused was liable to punishment; and it was the duty of the judge so to tell the jury when summing up the evidence, accompanied by those remarks and observations which the nature and peculiarities of each case might suggest and require.

Quest. III. In what terms ought the question to be left to the jury as to the prisoner's state of mind at the time when the act was committed?

No answer was returned to this question.

Quest. IV. If a person, under an insane delusion as to existing facts, commits an offence in consequence thereof, is he thereby excused?

Ans. If the delusion were only partial, the party accused was equally liable with a person of sane mind. If the accused killed another in self-defence he would be entitled to an acquittal, but if the crime were committed for any supposed injury he would then be liable to the punishment awarded by the laws to his crime.

Quest. V. Can a medical man, conversant with the disease of insanity, who never saw the prisoner previously to the trial, but who was present during the whole trial and the examination of all the witnesses, be asked his opinion as to the state of the prisoner's mind at the time of the commission of the alleged crime, or his opinion whether the prisoner was conscious, at the time of doing the act, that he was acting contrary to law? or whether he was labouring under any, and what delusion at the time?

Ans. The question could not be put in the precise form stated above, for by doing so it would be assumed that the facts had been proved. When the facts were proved and admitted, then the question, as one of science, would be generally put to a witness under the circumstances stated in the interrogatory.

Mr. Justice Maule agreed with the judges in respect to the answers returned to all the questions excepting the last; from this he entirely dissented. In his opinion, such questions might be at once put to medical men without reference to the facts proved; and he considered that this had been done, and the legality of the practice thereby confirmed on the trial of M'Naughten.—*Brit. and For. Med. Rev.*, July 1843. T. R. B.

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72. *Rupture of an Aneurism of the Left Gastro-epiploic Artery.* By Dr. Alle.—A young woman, in the fifth month of her pregnancy, attended a ball with her admirer, where she danced till two o'clock in the morning. She was now seized with such violent pain of the abdomen, that she had to be carried home. The medical attendant, who was summoned to the patient, found her cold, pulseless, and with all the symptoms of effusion of blood into the abdomen. She died very shortly afterwards. The post-mortem examination, which was performed by Dr. Allé, discovered the abdomen to be quite full of blood, partly fluid, partly coagulated. He imagined, in the first instance, that the hemorrhage probably proceeded from a rupture of the ovarium or tube, in consequence of extra-uterine conception, but careful examination showed everything in connection with the fœtus in a healthy state. The source of the fatal hemorrhage was discovered to be the left gastro-epiploic artery, which was enlarged at one point into an aneurism, and had there given way.—*Lond. and Edin. Med. Journ. Med. Sci.*, March 1843, from *Oester Med. Wochens.*, No. 51, 1842.